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FDA Approves New AGGRASTAT® Product Format

Bolus Vial to Improve Delivery Convenience

WINNIPEG, CANADA – (September 1, 2016) Medicure Inc. ("**Medicure**" or the "**Company**") (TSXV:MPH, OTC:MCUJF), a specialty pharmaceutical company, announced that it has received approval from the U.S. Food and Drug Administration (FDA) for its new "bolus vial" product format for AGGRASTAT® (tirofiban HCI).

The newly approved product format is a concentrated, pre-mixed, 15 ml vial designed specifically for convenient delivery of the AGGRASTAT bolus dose (25 mcg/kg). Development of the bolus vial was in response to feedback from interventional cardiologists and catheterization lab nurses from across the United States.

Commercial release of the bolus vial will take place at the beginning of the fourth quarter of this year. The Company believes this new product format will have a positive impact on hospital utilization of AGGRASTAT.

About Medicure Inc.

Medicure is a specialty pharmaceutical company focused on the development and commercialization of therapeutics for the U.S. hospital market. The primary focus of the Company and its subsidiaries is the marketing and distribution of AGGRASTAT (tirofiban HCl) for non-ST elevation acute coronary syndrome in the United States, where it is sold through the Company's U.S. subsidiary, Medicure Pharma, Inc. For more information on Medicure please visit www.medicure.com.

About AGGRASTAT

Indications and Usage

AGGRASTAT is indicated to reduce the rate of thrombotic cardiovascular events (combined endpoint of death, myocardial infarction, or refractory ischemia/repeat cardiac procedure) in patients with non-ST elevation acute coronary syndrome (NSTE-ACS).

Dosage and Administration

Administer intravenously 25 mcg/kg within 5 minutes and then 0.15 mcg/kg/min for up to 18 hours. In patients with creatinine clearance ≤60 mL/min, give 25 mcg/kg within 5 minutes and then 0.075 mcg/kg/min.

Clinical Experience

In clinical studies with the HDB regimen, Aggrastat was administered in combination with aspirin, clopidogrel and heparin or bivalirudin to over 8,000 patients for typically ≤24 hours.

Contraindications

Known hypersensitivity to any component of Aggrastat History of thrombocytopenia with prior exposure to Aggrastat Active internal bleeding, or history of bleeding diathesis, major surgical procedure or severe physical trauma within previous month.

Warnings and Precautions

Aggrastat can cause serious bleeding. If bleeding cannot be controlled discontinue Aggrastat. Thrombocytopenia: Discontinue Aggrastat and heparin.

Adverse Reactions

Bleeding is the most commonly reported adverse reaction.

For more information on AGGRASTAT, please refer to Full Prescribing Information.

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

Forward Looking Information: Statements contained in this press release that are not statements of historical fact, including, without limitation, statements containing the words "believes", "may", "plans", "will", "estimates", "continues", "anticipates", "intends", "expects" and similar expressions, may constitute "forward-looking information" within the meaning of applicable Canadian and U.S. federal securities laws (such forward-looking information and forward-looking statements are hereinafter collectively referred to as "forward-looking statements"). Forward-looking statements, including the timing of launch of the bolus vial, and the expectation of continued growth in sales of AGGRASTAT, are based on the current assumptions, estimates, analysis and opinions of management of the Company made in light of its experience and its perception of trends, current conditions and expected developments, as well as other factors which the Company believes to be relevant and reasonable in the circumstances. Inherent in forward-looking statements are known and unknown risks, uncertainties and other factors beyond the Company's ability to predict or control that may cause the actual results, events or developments to be materially different from any future results, events or developments expressed or implied by such forward-looking statements, and as such, readers are cautioned not to place undue reliance on forward-looking statements. Such risk factors include, among others, the Company's future product revenues, stage of development, additional capital requirements, risks associated with the completion and timing of clinical trials and obtaining regulatory approval to market the Company's products, the ability to protect its intellectual property, dependence upon collaborative partners, changes in government regulation or regulatory approval processes, and rapid technological change in the industry. Such statements are based on a number of assumptions which may prove to be incorrect, including, but not limited to, assumptions about: general business and economic conditions; the impact of changes in Canadian-US dollar and other foreign exchange rates on the Company's revenues, costs and results; the timing of the receipt of regulatory and governmental approvals for the Company's research and development projects; the availability of financing for the Company's commercial operations and/or research and development projects, or the availability of financing on reasonable terms; results of current and future clinical trials; the uncertainties associated with the acceptance and demand for new products and market competition. The foregoing list of important factors and assumptions is not exhaustive. The Company undertakes no obligation to update publicly or otherwise revise any forward-looking statements or the foregoing list of factors, other than as may be required by applicable legislation. Additional discussion regarding the risks and uncertainties relating to the Company and its business can be found in the Company's other filings with the applicable Canadian securities regulatory authorities or the US Securities and Exchange Commission, and in the "Risk Factors" section of its Form 20F for the fiscal year ended December 31, 2015.

AGGRASTAT® (tirofiban HCI) is a registered trademark of Medicure International, Inc.

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